



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 6 1984

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP3F2872/FAP3H5393: Chlorpyrifos\* in or on Grapes.  
Amendment of 10/17/83.  
ACCESSION NO. 072086

TO: J. Ellenberger, PM 12  
Registration Division (TS-767)

and

Toxicology Branch  
Hazard Evaluation Division (TS-769)

THRU: Charles L. Trichilo, Chief  
Residue Chemistry Branch  
Hazard Evaluation Division (TS-769)

FROM: R. W. Cook *RW Cook*  
Residue Chemistry Branch  
Hazard Evaluation Division (TS-769)

In our previous review (R. W. Cook, 7/22/83) of subject petition, two deficiencies were noted.

Deficiency #1:

We are unable to determine residue levels expected in raisins and raisin waste processed from treated grapes bearing residues at the 1 ppm level. Residue data for the fractions raisins and raisin waste produced from grapes bearing chlorpyrifos residues at or near 1 ppm are needed before we can draw conclusions in this regard. Food/feed additive tolerances will be needed only in those cases where residues in the processed product exceed those in the raw agricultural commodity.

The petitioner submits the requested data. See our review below.

Deficiency #2: If and when aerial application is proposed, additional supporting residue data will be needed.

Even though this comment was not provided to the petitioner, we consider it moot until such time aerial application is proposed.

\* Chlorpyrifos (O,O-diethyl O-(3,5,6-trichloro-2-pyridyl)phosphorothioate) and its metabolite 3,5,6-trichloro-2-pyridinol.

**Raisins:**

The submitted data is intended only to answer our questions about residue levels in raisins and raisin waste made from fresh grapes bearing residues at or near the tolerance level. In telecon of 9/1/83 (memo of 9/8/83), we agreed to the protocol... used herein, that is, shorter PHI grapes bearing residues close to 1 ppm made into raisins.

The analytical methods for chlorpyrifos and 3,5,6-trichloro-2-pyridinol have been discussed in our previous review. Untreated control samples showed 0.002- 0.012 ppm of TCP in whole grapes. Limits of sensitivity for the specific method for chlorpyrifos per se were reported at 0.01 ppm, and at 0.05 ppm for total residues of TCP. Reported recovery values for chlorpyrifos per se in fresh grapes, raisins, and raisin waste ranged from 85 to 94% at 0.01 to 2.0 ppm fortification levels, while recovery values for TCP in fresh grapes, raisin, and raisin waste ranged from 101 to 106% at fortification level of 1.0 ppm.

Samples of grapes were collected 0-3 days after one application of 1 lb. a.i./A, and samples of grapes were field-dried for 14 days to raisins. Raisin samples were separated into raisins and raisin waste by hand.

Residues of chlorpyrifos in the whole grape samples showed levels of 1.6 to 0.45 ppm chlorpyrifos at 0 and 3 days PHI, respectively, and residues of the metabolite TCP ranged from 0.21 to 0.11 ppm. Raisins made from these grapes showed 0.3 ppm (0 day) to 0.08 ppm (3 day) chlorpyrifos per se and TCP residues were <0.05 ppm to ND (same intervals). Raisins waste showed 0.53 ppm (0 day) to 0.27 ppm (3 day) chlorpyrifos per se and TCP residues were ND to 0.13 ppm (same intervals).

We now conclude that combined residues of chlorpyrifos and its TCP metabolite in raisins and raisin waste are not likely to exceed the level found in the fresh grapes (1 ppm), and therefore, food and feed additive tolerances are not necessary. We consider Deficiency #1 resolved.

**Conclusions:**

1. Residues of chlorpyrifos and its metabolite TCP in raisins and raisin waste are not likely to exceed the proposed tolerances of 1 ppm (of which no more than 0.8 ppm is chlorpyrifos) in or on fresh grapes, and therefore, food and feed additive tolerances for these commodities are not required. The petitioner should submit a revised Section F which does not propose tolerances in or on raisins and raisin waste.
2. We have previously concluded the existing meat, milk, poultry, and egg tolerances are adequate.

3. A Codex sheet was attached to our previous review.
4. Aerial application data is not required until such application technique is proposed.

Recommendations:

TOX considerations permitting, and further, providing the petitioner revises the proposed tolerances as described in Conclusion 1, above, we recommend for the establishment of the proposed tolerances.

cc: R.F., Circu, Russell W. Cook, FDA, PP3F2872/FAP3H5393, TOX  
EEB, EAB, Robert E. Thompson  
RDI: Section Head: RSQuick: Date: 2/1/84: RDSchmitt: Date: 2/2/84  
TS-769: RCB: Reviewer: RWCook: Date: 2/21/84: CM#2: RM: 810:557-7377  
Edit by LDT: 2/3/84